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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,616	09/08/2000	HIROKATSU MIYATA	35.C14776	2679

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EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/657,616

Applicant(s)

MIYATA, HIROKATSU

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24,27-38 and 40-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23,24,27-38,40 and 41 is/are allowed.
- 6) ☒ Claim(s) 42 and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Leung et al (US 6,171,687). Ozin teaches an oriented mesoporous thin film formed on a high density polyethylene substrate (column 5, lines 59-64, column 9, lines 22-25). Ozin is silent as to the substrate having a functional group different from the methylene groups in the repeating unit. Leung teaches an infiltrating nanoporous material **132** comprising a volatile component **136** and a reinforcing component **138** (column 5, lines 24-26). Leung discloses the reinforcing component being formed from poly(arylene ether) which has a functional group different from the methylene groups in the repeating unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate into the support film of Ozin a reinforcement material having a functional group different from the methylene groups in the repeating unit as suggested by Leung motivated by the desire to form a good orientation of the mesoporous material film.
3. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Anderson et al (US 6,096,469). Ozin teaches an oriented mesoporous thin film formed on a high density polyethylene

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substrate (column 5, lines 59-64, column 9, lines 22-25). Ozin is silent as to the polyester substrate on which the oriented mesoporous film is deposited.

Anderson teaches an ink receptor medium comprising a polyester substrate and an ink receptor which includes a mixture of surfactant templated mesoporous particles and organic binder (abstract, column 10, lines 35-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the polyester film as the substrate on which the oriented mesoporous film is deposited because of its desirable strength and integrity.

4. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Balkus, Jr. et al (US 6,120,981). Ozin teaches an oriented mesoporous thin film formed on a high density polyethylene substrate (column 5, lines 59-64, column 9, lines 22-25). Ozin is silent as to the polyester substrate on which the oriented mesoporous film is deposited. Balkus teaches a mesoporous thin film deposited on the indium-doped tin oxide-coated polyester substrate (abstract, column 3, line 10). Balkus teaches the appropriate choice of substrate will vary as dependent upon the intended use of the thin film (column 3, lines 11-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the polyester film as the substrate on which the oriented mesoporous film is deposited because of its desirable strength and integrity.

Allowable Subject Matter

1. Claims 23, 24, 27-38, 40-41 are allowed. None of the prior art discloses or suggests the mesostructure thin film having a recited structure as set forth in claim 23 wherein the surface of the polymer compound on which the mesostructure thin film is formed is uniaxially oriented.
5. Claims 25, 26 and 39 have been cancelled in the amendment received on 04/30/2003.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV
May 28, 2003



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700